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Adenocarcinoma of the Uterine Cervix: A Study of 37 Cases

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In a study of 37 patients diagnosed with cervical adenocarcinoma between 1961 and 1994, clinical and pathologic findings were evaluated. Of the 37 patients, 27 (73%) had a pure adenocarcinoma, five (13.5%) had a collision tumor and five (13.5%) had an adenosquamous carcinoma. Twenty-six patients (70.3%) were diagnosed in Stage I, and 11 (29.7%) patients in Stage II, III, and IV. Two patients (5.4%) were treated with simple hysterectomy alone, nine (24.3%) with simple hysterectomy followed by radiotherapy, eight (21.6%) with radical hysterectomy alone, five (13.5%) with radical hysterectomy followed by radiotherapy, nine (24.3%) with radiotherapy alone, one (2.7%) with radiotherapy followed by simple hysterectomy, and three (8.1%) received no treatment. The actuarial 5-year survival rate was 69%. It is suggested that for patients with small early-stage disease, radical hysterectomy should be primary treatment and postoperative adjuvant radiotherapy would be advocated if high-risk features are histologically demonstrated. For all other patients, radiotherapy should be primary treatment.

KEY WORDS: **simple hysterectomy, radical hysterectomy, radiotherapy, vaginal bleeding, high-risk histologic features, ovarian conservation**

INTRODUCTION

Adenocarcinoma is the second most common malignancy of the uterine cervix following squamous cell carcinoma [1]. In recent years, the incidence rate has been increasing, accounting for 10–34% of all cervical malignancies [2–5]. Three histological types of cervical adenocarcinoma have been delineated: pure adenocarcinoma (tumor composed of adenocarcinoma elements only), collision tumor (tumor composed of separated elements of adenocarcinoma and squamous cell carcinoma) and adenosquamous carcinoma (mixed tumor, composed of an admixture of adenocarcinoma and squamous cell carcinoma elements). The adenocarcinoma elements have further been divided into a variety of histologic subtypes. Management of cervical adenocarcinoma has traditionally followed that of cervical squamous cell carcinoma with primary radical hysterectomy and bilateral pelvic node dissection (RHND) as the mainstay of treatment in early-stage disease. However, since the biologic behavior of cervical adenocarcinoma appears to be different from that of cervical squamous cell carcinoma and patients with cervical adenocarcinoma have been recognized to have a worse prognosis as compared stage-for-stage (albeit disregarding tumor volume) with patients with cervical squamous cell carcinoma, the optimal management of this disease has been a challenge and a subject of debate [5–9].

Because of the relative infrequency of cervical adenocarcinoma, very few individuals or even referal centers can collect a large series of this tumor. This study presents the conjoined experience of two regional hospitals in south Israel (Soroka Medical Center, Beer-Sheva and Kaplan Hospital, Rehovot) and includes 37 patients with

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cervical adenocarcinoma who were managed over a 34-year period. During this period, in these hospitals, 437 malignancies of the uterine cervix were diagnosed; thus, 37 cervical adenocarcinomas accounted for 8.5% of all cervical malignancies.

MATERIAL AND METHODS

The clinical and pathological records of 37 patients with adenocarcinoma of the uterine cervix who were managed at the Soroka Medical Center, Beer-Sheva, and at the Kaplan Hospital, Rehovot, Israel between January 1961 and December 1994 were reviewed. During the study period, cervical adenocarcinomas were separated into three histologic types: pure adenocarcinoma, collision tumor, and adenosquamous carcinoma. Pure adenocarcinomas and the adenocarcinoma elements of collision tumors were further subdivided into the following subtypes: endocervical, mucinous, endometrioid, papillary, clear cell, and adenoid cystic. For patients who had initial surgery with RHND, the surgical technique performed was consistent with a Class III extended hysterectomy as described by Piver et al. [10]. The pelvic lymph node dissection consisted of removal of all lymphatic tissue around the common, external, and internal iliac vessels and anterior to the obturator nerve. For patients who received radiotherapy, it consisted of external megavoltage photonic irradiation employing a 10-MeV linear accelerator delivering 4,500–5,040 cGy to the whole pelvis in daily fractions of 180 cGy via an AP-PA opposed fields or four-field box technique. This was followed by two intracavitary applications of brachytherapy using Cesium-137 (each application 2,500 mg/h) via an afterloading applicator (Fletcher-Suit or Delclos). After though record review, all patients were retrospectively staged according to the recently revised International Federation of Gynecology and Obstetrics (FIGO) staging system for gynecologic cancer [11]. The following data were retrieved from the files of the patients: age at initial diagnosis, pre- or postmenopausal status, gravidity, parity, presenting symptoms, time interval from the beginning of symptoms until diagnosis of cervical malignancy, method of diagnosis, tumor size, stage of disease, histopathological findings (histologic type/subtype, grade, depth of invasion, presence of lymph/vascular space involvement, parametrial involvement, involvement of surgical margins, and lymph node status), treatment modality (primary and adjuvant), and results of follow-up. Evaluation of statistical significance of the difference between means was performed by Student's *t*-test [12] and survival was calculated using the Kaplan–Meier method [13].

RESULTS

Thirty-six patients were Jewish and one was an Arab Bedouin. The mean age at the time of diagnosis of all patients was 51.0 years (range, 20–71 years). Eleven patients (29.7%) were premenopausal and 26 (70.3%) were postmenopausal. Five patients (13.5%) were nulliparous and 32 (86.5%) had at least one child at the time of diagnosis. The mean parity of the parous patients was 4.5 (range, 1–12 children). Two patients had a second primary malignancy occurring synchronously with cervical adenocarcinoma (ovarian serous tumor of borderline malignancy and uterine smooth muscle tumor of uncertain malignant potential).

TABLE I. Presenting Symptoms of Adenocarcinoma of Uterine Cervix

Symptom[a]	No. of patients	%
Postmenopausal bleeding	16	43.2
Postcoital bleeding	14	37.8
Intermenstrual bleeding and/or excessive menstrual bleeding	11	29.7
Asymptomatic (found on routine examination)	1	2.7

[a]Some patients presented with a combination of symptoms, therefore percentage adds up to more than 100%.

The presenting symptoms are summarized in Table I. Thirty-six patients (97.3%) presented with abnormal vaginal bleeding and one patient (2.7%) was asymptomatic (the tumor was discovered on routine pelvic examination). The time interval from the beginning of symptoms until seeking medical attention was recorded in 16 patients and ranged from 1 week to 18 months (mean, 5.3 months). Tumor diameter was evaluated at diagnosis in 22 patients and ranged from 1 to 9 cm (mean, 3.8 cm). Naked eye directed punch biopsies were sufficient for diagnosis in 34 patients (91.9%), colposcopically directed biopsies were required for diagnosis in two patients (5.4%) and cervical conization established the diagnosis in one patient (2.7%).

The distribution of patients according to FIGO staging and histologic type is shown in Table II. No significant differences in mean age were noted between the various histologic types (Student's *t*-test $P > 0.05$). The distribution of patients with pure adenocarcinoma and collision tumor according to histologic subtype of the adenocarcinoma element is displayed in Table III. None of the two patients with clear cell adenocarcinoma had a history of in utero maternal diethylstilbestrol (DES) exposure.

Of the 27 patients with pure adenocarcinoma, in 16 (59.3%) the tumor presented as an exophytic cauliflower-shaped lesion, in 10 (37%)—as an endophytic barrel-shaped lesion and in one (3.7%) the cervix grossly appeared normal. Of the five patients with collision tumor, in three (60%) the tumor presented as an exophytic cauliflower-shaped lesion and in two (40%) the cervix grossly appeared normal. In all five patients with adenosquamous carcinoma the tumor presented as an exophytic cauli-

TABLE II. Distribution of Patients With Cervical Adenocarcinoma According to FIGO Staging and Histologic Type (n = 37)

Stage	Histologic type: Pure adenocarcinoma	Collision tumor	Adenosquamous carcinoma	Total	Literature[a]
IA2	1	2	—	3 (8.1%)	2 (0.2%)
IB	18	3	2	23 (62.2%)	737 (63.6%)
IIA	1	—	1	2 (5.4%)	76 (6.5%)
IIB	3	—	2	5 (13.5%)	196 (16.9%)
IIIA	—	—	—	0 (0.0%)	8 (0.7%)
IIIB	2	—	—	2 (5.4%)	102 (8.8%)
IVA	—	—	—	0 (0.0%)	2 (0.2%)
IVB	2	—	—	2 (5.4%)	36 (3.1%)
Total	27 (73.5%)	5 (13.5%)	5 (13.5%)	37 (100.0%)	1,159 (100.0%)
Literature[b]	1,309 (76.3%)	6 (0.3%)	400 (23.3%)	1,715 (100.0%)	

[a]Patients collated from 13 series in recent literature in which the distribution of patients according to FIGO staging was recorded [1,3,4,7,8,17,18,20,21,25,26,29,31].
[b]Patients collated from 24 series in recent literature in whom the histologic type of cervical adenocarcinoma was recorded [1–5, 7,8,16–18,20,21,23–34].

TABLE III. Distribution of Patients With Pure Adenocarcinoma and Collision Tumor According to Histologic Subytype of the Adenocarcinoma Element (n = 32)

Histologic subtype	Histologic type: Pure adenocarcinoma	Collision tumor	Total	Literature[a]
Endocervical	13	3	16 (50.0%)	700 (71.2%)
Mucinous	5	—	5 (15.6%)	29 (3.0%)
Papillary	3	2	5 (15.6%)	56 (5.7%)
Endometrioid	3	—	3 (9.4%)	67 (6.8%)
Clear cell	2	—	2 (6.2%)	45 (4.6%)
Adenoid cystic	1	—	1 (3.1%)	22 (2.2%)
Glandular	—	—	—	27 (2.7%)
Medullary	—	—	—	11 (1.1%)
Signet ring cell	—	—	—	9 (0.9%)
Myxomatous	—	—	—	8 (0.8%)
Colloid	—	—	—	6 (0.6%)
Papillary villoglandular	—	—	—	3 (0.3%)
Total	27	5	32 (100.0%)	983 (100.0%)

[a]Patients with pure adenocarcinoma and collision tumor collated from 24 series in recent literature in whom the histologic subtype of the adenocarcinoma element was recorded [1–5,7,8,16–18,20,21,23–34].

flower-shaped lesion. Overall, of the 37 patients, in 24 (64.9%) the tumor presented as an exophytic cauliflower-shaped lesion, in 10 (27.0%)—as an endophytic barrel-shaped lesion and in three (8.1%) the cervix grossly appeared normal.

The distribution of treatment modalities in relation to FIGO staging is displayed in Table IV. Two patients died of disease before initiation of treatment and one was lost to follow-up 1 month after diagnosis and before initiation of treatment.

The clinicopathological details of the 13 patients who had primary treatment with RHND ± BSO are given in Table V. Five (38.5%) of these patients received postoperative adjuvant pelvic radiotherapy: in three, radiotherapy was employed because of positive pelvic lymph nodes, in one—because of a large (4-cm) clear cell adenocarcinoma with lymph/vascular space involvement, and in one the reason for receiving postoperative radiotherapy was not stated in her record.

All 12 patients who underwent TAH, had their ovaries removed during surgery. Of the 13 patients who had RHND, in nine (69.2%) surgery also included BSO, in one (7.7%) only one ovary was removed, while the other ovary was preserved and translocated above the true pelvis and in three (23.1%) both ovaries were preserved and translocated above the true pelvis (Table V). Overall, of

TABLE IV. Treatment Modalities in Relation to FIGO Staging of Patients With Adenocarcinoma of the Uterine Cervix (n = 37)*

Stage	TAH + BSO alone	TAH + BSO then RT	RHND ± BSO alone	RHND ± BSO then RT	RT alone	RT, then TAH + BSO	No treatment	Total
IA2	2		1					3
IB		9	6	4	4			23
IIA			1	1				2
IIB					4	1		5
IIIB					1		1	2
IVB							2	2
Total	2 (5.4%)	9 (24.3%)	8 (21.6%)	5 (13.5%)	9 (24.3%)	1 (2.7%)	3 (8.1%)	37 (100%)

*TAH, total abdominal hysterectomy; BSO, bilateral salpingo-oophorectomy; then, followed by; RT, radiotherapy; RHND, radical hysterectomy and bilateral pelvic node dissection.

TABLE V. Cliniocopathological Details of Patients With Cervical Adenocarcinoma Who Had Primary Treatment With Radical Hysterectomy and Bilateral Pelvic Node Dissection With or Without Bilateral Salpingo-Oophorectomy (n = 13)*

Age/stage	Histologic subtype/grade	BSO	Tumor size (cm)	Pelvic lymph nodes	Parametrial invol.	Lymph vascular invol.	Involved surgical margins	Adjuvant therapy	Follow-up (mo)/outcome
Pure adenocarcinoma									
37/IB	Endocer/G1	+	3	−	−	−	−	−	40/AWD
50/IB	Endomet/G1	+	4.5	−	−	−	−	−	8/NED
38/IB	Endocer/G1	−	2.5	−	−	−	−	−	68/NED
41/IB	Endocer/G1	+	4	−	−	−	−	−	33/NED
49/IB	Endocer/G1	+	3.5	−	−	−	−	−	104/NED
69/IIA	Mucin/G3	+	4	−	−	−	−	−	86/NED
20/IB	Clear/G3	−	4	−	−	+	−	RT	11/NED
34/IB	Mucin/G3	−	6	+	+	+	+	RT	24/DOD
39/IB	Endocer/G3	+	4	+	−	+	−	RT	8/NED
Collision tumor									
31/IA2	Endocer/G1	−	4	−	−	−	−	−	46/NED
48/IB	Endocer/G2	+	3	−	−	−	−	−	112/AWD
Adenosquamous carcinoma									
57/IB	Adenosq/G3	+	?	−	−	−	−	RT	66/AWD[a]
61/IIA	Adenosq/G3	+	3	+	+	+	−	RT	41/DOD

*Endocer, endocervical; Endomet, endometrioid; Mucin, mucinous; Clear, clear cell; Adenosq, adenosquamous; RT, radiotherapy; invol, involvement; mo, months; DOD, died of disease; NED, no evidence of disease; AWD, alive with disease.
[a]The reason for receiving postoperative adjuvant radiotherapy was not stated in this patient's record.

the 25 patients who had surgery, in 21 (84%) both ovaries were extirpated, in one (4%) only one ovary was removed and in three (12%) both ovaries were preserved. In all patients who underwent surgery, the ovaries were meticulously inspected during surgery and grossly appeared normal. In none of the 43 extirpated ovaries was tumor detected.

Follow-up ranged from 1 to 288 months, with 21 (56.7%) of the 37 patients followed for at least 5 years or until time of death. Twenty-two patients (59.5%) were alive free of disease, six (16.2%) were alive with disease, and nine (24.3%) had died of disease. The actuarial 5-year survival rate for all 37 patients was 69%. The actuarial 5-year survival rate for Stage I alone was 78%, while that for Stages II, III, and IV combined was 40% (the difference was not statistically significant, $P > 0.05$).) (Fig. 1). The actuarial 5-year survival rate for Grade 1 alone was 77%, while that for Grades 2 and 3 combined was 60% (the difference was not statistically significant, $P > 0.05$). The differences in the actuarial 5-year survival rates between the various histologic subtypes and those between the different treatment modalities, were not statistically significant ($P > 0.05$).

DISCUSSION

Adenocarcinoma is the second most common carcinoma of the uterine cervix following squamous cell carcinoma [1]. Until two decades ago, its relative proportion had been considered to range between 3% and 6% [14]. However, in recent years, the relative proportion of cervical adenocarcinoma has increased, accounting for 10–34% of all cervical carcinomas [2–5]. It remains unclear whether this increase in frequency of cervical adenocarcinoma is due to a relative decrease in cervical squamous cell carcinoma or an absolute increase in the incidence of cervical adenocarcinoma in young women [2,6,9,15–

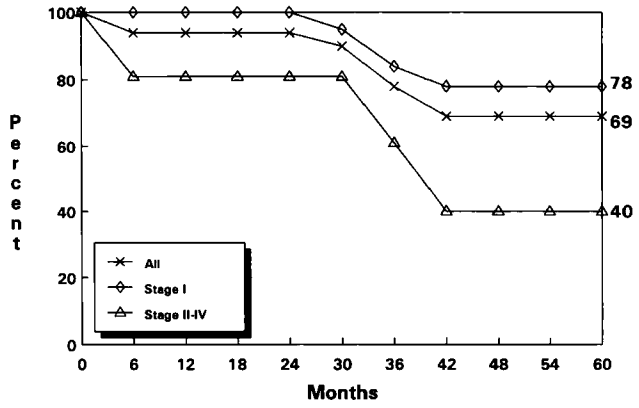

Fig. 1. Actuarial survival in relation to FIGO staging of patients with cervical adenocarcinoma.

17]. An assumption has been made that oral contraceptives may have some etiologic role but the arguments are speculative [18]. In a previous study, we have demonstrated that cervical adenocarcinoma with or without a malignant squamous component accounted for 12.3% of all cervical cancers among Jewish women [19]. In premenopausal patients cervical adenocarcinoma accounted for 18.9% of all cervical cancers, as compared to 8.6% in postmenopausal women [19].

In this report, the prevailing presenting symptom in patients with cervical adenocarcinoma was abnormal vaginal bleeding (Table I). Saigo et al. [20], in their review of 136 patients with cervical adenocarcinoma, have reported that 73% of the patients presented with abnormal vaginal bleeding either alone or in combination with other symptoms, while 15% were asymptomatic.

Attention has been given to the various histologic types/subtypes of cervical adenocarcinoma in an attempt to identify those patients who are at greater or lesser risk of recurrence. Since most authors have failed to demonstrate that the histologic type/subtype of cervical adenocarcinoma bears a significant influence on the prognosis, the importance of histologic type/subtype as a prognostic factor has remained unclear, although a trend for a poorer prognosis has been noticed with the adenosquamous type and the clear cell subtype [2,17]. Fu et al. [21] have reported a 66% 5-year survival rate in patients with Stage IB adenosquamous carcinoma as compared to 80% 5-year survival rate in patients with Stage IB pure adenocarcinoma. Gallup et al. [22] have observed a 5-year survival rate of 27% in patients with Stage IB adenosquamous carcinoma. Saigo et al. [20] have noticed that the endometrioid subtype bears a better prognosis than the other histologic subtypes. Shingleton et al. [18] have found no difference in survival based on histologic subtype. We, like others, have noted that the most frequent histologic type of cervical adenocarcinoma is pure adenocarcinoma (Table II), with the endocervical subtype making up the vast majority of cases (Table III). Of a total of 2,005 patients with cervical adenocarcinoma collated from 24 series in recent literature [1–5,7,8,16–18,20,21,23–34] the histologic type of the adenocarcinoma was recorded in 1715 patients and included 1309 patients (76.3%) with pure adenocarcinoma, 6 (0.3%) with collision tumor and 400 (23.3%) with adenosquamous carcinoma (Table II). Of a total of 1315 patients with pure adenocarcinoma and collision tumor, the histologic subtype of the adenocarcinoma element was recorded in 983 patients, 700 (71.2%) of which were of the endocervical subtype (Table III).

We, like others, have observed that the majority of patients with cervical adenocarcinoma are diagnosed in clinical Stage IB. Of the 24 series mentioned above, 10 series included only patients with FIGO Stage IB (777 patients) and 14 series included patients with all FIGO stages (1,228 patients). Of the 14 series composed of patients with all FIGO stages, the distribution of patients according to FIGO staging was recorded in 13 series (1,159 patients) and included two (0.2%) Stage IA2, 737 (63.6%) Stage IB, 76 (6.5%) Stage IIA, 196 (16.9%) Stage IIB, eight (0.7%) Stage IIIA, 102 (8.8%) Stage IIIB, two (0.2%) Stage IVA, and 36 (3.1%) Stage IVB (Table II).

Cervical adenocarcinoma has been reported by most authors to have a worse prognosis as compared stage for stage with its squamous cell counterpart [7,9]. The 5-year survival rate of patients with Stage I, I, and III have been reported to be 60%, 47%, and 8%, respectively, for cervical adenocarcinoma, compared with 90%, 62%, and 36%, respectively, for cervical squamous cell carcinoma [9]. It has been suggested that tumor size probably accounts for this difference, since most cervical adenocarcinomas grow endophytically (barrel-shaped) and this may result in later detection of the malignancy than the typically exophytic squamous cell carcinomas [6–8]. The frequency of involved pelvic lymph nodes in Stage IB cervical adenocarcinoma has been found to be higher (22%) than that in cervical squamous cell carcinoma (15%) and involvement of even one pelvic lymph node significantly impacts on survival [2,20,24]. McLellan et al. [2], in their study of 55 patients with Stage IB cervical adenocarcinoma, have identified the following factors as significant determinants of recurrence after RHND: lymph node metastases ($p < 0.0001$), histologic grade ($P < 0.0001$), depth of cervical stromal invasion ($P < 0.0001$), presence of paracervical disease ($P = 0.0034$) and size of the lesion ($P = 0.0059$). In a review of 125 patients with Stage IB cervical adenocarcinoma, Hopkins et al. [24], demonstrated that survival was significantly related to tumor grade, pelvic lymph node status, and depth of cervical stromal invasion. The factors that have been considered as high-risk factors necessitating adju-

TABLE VI. High-Risk Factors Necessitating Adjuvant Pelvic Radiotherapy After RHND in Cervical Adenocarcinoma

1. Involved pelvic lymph nodes (even if one lymph node only is involved)
2. Tumor size ≥4 cm (bulky barrel-shaped lesion)
3. Cervical stromal penetration ≥50% thickness of the cervical wall
4. Parametrial involvement
5. Paracervical involvement
6. Close or involved vaginal margins
7. Close or involved other surgical margins
8. Lymph/vascular space invasion (LVSI)
9. Advanced histologic grade (G3)
10. Adenosquamous histologic type
11. Clear cell histologic subtype
12. Lower uterine segment involvement

vant radiotherapy after RHND in cervical adenocarcinoma are summarized in Table VI.

The relative rarity of cervical adenocarcinoma and the lack of availability of long-term follow-up results has made assessment of the most effective management difficult [2,15]. The treatment of this disease has traditionally been modeled after that for its squamous cell counterpart with primary RHND ± BSO the mainstay of treatment for Stage IB disease at most institutions [2,17]. However, since a decreased survival for adenocarcinoma as compared with squamous cell carcinoma has been reported, various modifications have been employed often combining surgery with radiotherapy [2,6,8]. Rutledge et al. [14] developed for Stage IB barrel-shaped cervical adenocarcinoma >4 cm an approach in which patients are initially treated with preoperative irradiation (in order to shrink the bulky tumor) followed by simple TAH ± BSO. Notwithstanding, the best cumulative 5-year survival rate (93%) was observed in patients treated by RHND ± BSO alone, whereas the worst survival (18%) was in those treated by simple TAH ± BSO followed by radiotherapy [24]. Eifel et al. [27] noted a high rate of pelvic recurrence following treatment with RHND ± BSO alone for patients with Stage IB cervical adenocarcinoma >3 cm in diameter, particularly in the presence of lymph/vascular space invasion, poorly differentiated features and positive pelvic lymph nodes. Although the magnitude of the influence of adjuvant radiotherapy after RHND ± BSO on survival has as yet not been determined, it has been suggested that adjuvant radiotherapy may decrease pelvic failure rates and improve the survival of patients primarily treated with RHND ± BSO and found to have one or more of the risk factors listed in Table VI.

One of the established advantages of treating early-stage cervical malignancy with RHND rather than with radiotherapy is the ability to preserve the patient's ovaries [35]. This prevents surgical menopause with its associated unpleasant symptoms and concomitant risks of osteoporosis and cardiovascular disease. Since ovarian metastases have been detected in no more than 0.5% of patients with cervical squamous cell carcinoma, conservation of the ovaries at the time of RHND in young patients with early-stage cervical squamous cell carcinoma has become a widely accepted policy [35]. However, since some investigators have noticed microscopic ovarian metastases in up to 7% of patients with cervical adenocarcinoma, preservation of the ovaries in young patients with early-stage cervical adenocarcinoma has been a subject of some debate [28,29,35]. Nevertheless, since the assumption that patients with early-stage cervical adenocarcinoma are at high risk of ovarian metastases has not been confirmed by us and most other authors, preservation of the ovaries at the time of RHND in young patients with early-stage cervical adenocarcinoma seems to be appropriate and justifiable [2,16,24,29,35].

In contrast to young patients with clear cell adenocarcinoma of the vagina, a strong association with intrauterine exposure to diethylstilbestrol (DES) in the case of patients with cervical clear cell adenocarcinoma has not been confirmed [20]. In this report, none of the two patients with cervical clear cell adenocarcinoma disclosed a history of in utero maternal DES exposure. Estrogen replacement therapy (HRT) can safely be prescribed for patients after treatment for cervical adenocarcinoma, since an increased risk of recurrence in patients receiving HRT after treatment for cervical adencocarcinoma has not been observed [2,35].

In conclusion, the biologic behavior of cervical adenocarcinoma appears to be different from that of its squamous cell counterpart. The primary endocervical growth of the tumor with expansion of the lower uterine segment may promote earlier parametrial spread and later detection of the disease. Although the treatment of cervical adenocarcinoma has traditionally been modeled after that for cervical squamous cell carcinoma with primary RHND as the mainstay of treatment in early-stage disease, the optimal management of cervical aenocarcinoma continues to be a challenge and a subject of debate. A different set of criteria in selecting patients with early-stage cervical adenocarcinoma for primary RHND should be used and similarly the postoperative approach to the high-risk cervical adenocarcinoma patients may need to be different from that to the high-risk cervical squamous cell carcinoma patients. On the basis of literature and our data, we suggest that for patients with early-stage cervical adenocarcinoma (Stage IB and early-Stage IIA), <4 cm in diameter, RHND with optional ovarian conservation should be the primary treatment. Following primary surgery, the presence of one or more of the high-risk factors listed in Table VI would necessitate postoperative adjuvant pelvic radiotherapy. Selected patients with Stage IB bulky central lesions ≥4 cm in diameter may benefit from primary whole pelvic radiotherapy followed by simple TAH. For patients with more than Stage IB and early-

Stage IIA cervical adenocarcinoma, whole pelvic radiotherapy would be the primary treatment.

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